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(54) METHOD AND DEVICE FOR ARTICLE MANAGEMENT OF ROTARY FOOD AND DRINK TABLE

(57)Abstract:

PROBLEM TO BE SOLVED: To facilitate article input and to lighten the load of operation regarding article management, etc.

SOLUTION: The rotary food and drink table is provided with a crescent chain 18 for cyclically conveying articles 14 above a table 12 and articles 14 are placed on each article dish 16; and images of recognition data consisting of the color or pattern of an article dish 16 and kind data consisting of the kind of an article 14 are read by a decision sensor 22 coupled with a computer 26 and recorded in the computer 26; and then the dish is supplied onto the crescent chain 18, and then article dishes 16 cyclically conveyed on the crest chain 18 are all recorded and managed by the computer 26.
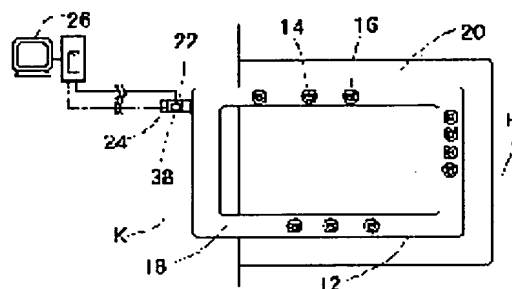
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TECHNICAL FIELD

[Field of the Invention] This invention relates to the goods management method and equipment which can manage easily the goods pan by which patrol conveyance is carried out in the store in which the revolution eating-and-drinking base was installed.

[Translation done.]

* NOTICES *

PRIOR ART

[Description of the Prior Art] In order to make easy to calculate the tariff of the goods pan which the visitor ate, the cook was making the goods pan with which a color differs from a pattern lay goods according to a class each time, in case the goods pan with which the sushi which is goods was laid is conventionally supplied in the store in which the revolution eating-and-drinking base was installed.

[0003] Moreover, when calculating the tariff of the goods pan which the visitor ate, the goods pan accumulated on the table or the counter is calculated by the help after that a worker checks a color or a pattern, telling a visitor about the tariff in presentation or a voice is known, and the visitor had paid the tariff by the register (account).

[0004] Moreover, the goods with which, as for the freshness management of the goods of a goods pan by which patrol conveyance is carried out in the revolution eating-and-drinking base top, goods freshness deteriorated, without eating to a long duration visitor by viewing of a cook or a worker were collected from on a revolution eating-and-drinking base.

[Translation done.]

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] When a cook and a worker made the sushi which is goods lay in the goods pan with which a color differs from a pattern according to a tariff conventionally as aforementioned and there was no goods pan of a predetermined tariff, the goods pan of this predetermined tariff needed to be washed urgently, and needed to be prepared, the trouble of sushi fabrication operation being interrupted in the meantime was caused, and it had become a problem that working capacity is not good.
[0006] Moreover, since it is a usual state that some kinds of goods exist also at the same tariff and, as for some kinds of goods, color is different, respectively, When the color sense of each goods and a goods pan might harmonize, making it lay in the same color or the goods pan of the same pattern to each goods from which color is different made a visitor's appetite decline, when it conflicts and conflicted, and it had the problem that sales decreased sharply about the goods.
[0007] Moreover, since the worker had calculated the tariff by having checked the goods pan accumulated on the table or the counter whenever the visitor returned, it had become a problem that the account burden placed on a worker is size.
[0008] Moreover, it had become with the factor which reduces remarkably credit [as opposed to / patrol conveyance of the goods which there is often a case where the goods with which goods freshness deteriorated since viewing of a cook or a worker was performing freshness management of goods are not collected promptly, and carried out freshness degradation on this occasion continues being carried out as it is on a revolution eating-and-drinking base, and these goods that carried out freshness degradation touch to a visitor's eyes, and / goods offer of a store], and reliance.
[0009] Moreover, in the cook and the worker, while being able to make it lay in the goods pan which harmonized with the color of the goods rather than being able to make each goods able to lay in the goods pan with which a color differs from a pattern according to a class each time, the approach and equipment which can calculate the tariff of the goods pan which the visitor ate in an instant are demanded strongly.
[0010] Without limiting the class of goods made to lay that such want should be coped with, this invention can input goods easily, makes the activity burden placed on merchandise management, fee calculation, etc. decrease sharply, and aims to let goods freshness management offer the goods management method and equipment in an easy revolution eating-and-drinking base.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The top view of the merchandise management equipment concerning this invention.
[Drawing 2] The amplification front view showing the data input section of a **** goods pan and goods.
[Drawing 3] The amplification front view of the **** goods pan measurement section.
[Drawing 4] The **** front view showing the drive of a crescent-sash-lock chain.
[Drawing 5] The top view showing another example.
[Description of Notations]
12 Pedestal
14 Goods
16 Goods Pan
18 Crescent-Sash-Lock Chain
22 Distinction Sensor
26 Computer
36 ID Medium
38 ID Medium Reading Sensor
44 Detection Sensor

[Translation done.]

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the goods management method and equipment which can manage easily the goods pan by which patrol conveyance is carried out in the store in which the revolution eating-and-drinking base was installed.
[0002]
[Description of the Prior Art] In order to make easy to calculate the tariff of the goods pan which the visitor ate, the cook was making the goods pan with which a color differs from a pattern lay goods according to a class each time, in case the goods pan with which the sushi which is goods was laid is conventionally supplied in the store in which the revolution eating-and-drinking base was installed.
[0003] Moreover, when calculating the tariff of the goods pan which the visitor ate, the goods pan accumulated on the table or the counter is calculated by the help after that a worker checks a color or a pattern, telling a visitor about the tariff in presentation or a voice is known, and the visitor had paid the tariff by the register (account).
[0004] Moreover, the goods with which, as for the freshness management of the goods of a goods pan by which patrol conveyance is carried out in the revolution eating-and-drinking base top, goods freshness deteriorated, without eating to a long duration visitor by viewing of a cook or a worker were collected from on a revolution eating-and-drinking base.
[0005]
[Problem(s) to be Solved by the Invention] When a cook and a worker made the sushi which is goods lay in the goods pan with which a color differs from a pattern according to a tariff conventionally as aforementioned and there was no goods pan of a predetermined tariff, the goods pan of this predetermined tariff needed to be washed urgently, and needed to be prepared, the trouble of sushi fabrication operation being interrupted in the meantime was caused, and it had become a problem that working capacity is not good.
[0006] Moreover, since it is a usual state that some kinds of goods exist also at the same tariff and, as for some kinds of goods, color is different, respectively, When the color sense of each goods and a goods pan might harmonize, making it lay in the same color or the goods pan of the same pattern to each goods from which color is different made a visitor's appetite decline, when it conflicts and conflicted, and it had the problem that sales decreased sharply about the goods.
[0007] Moreover, since the worker had calculated the tariff by having checked the goods pan accumulated on the table or the counter whenever the visitor returned, it had become a problem that the account burden placed on a worker is size.
[0008] Moreover, it had become with the factor which reduces remarkably credit [as opposed to / patrol conveyance of the goods which there is often a case where the goods with which goods freshness deteriorated since viewing of a cook or a worker was performing freshness management of goods are not collected promptly, and carried out freshness degradation on this occasion continues being carried out as it is on a revolution eating-and-drinking base, and these goods that carried out freshness degradation touch to a visitor's eyes, and / goods offer of a store], and reliance.
[0009] Moreover, in the cook and the worker, while being able to make it lay in the goods pan which harmonized with the color of the goods rather than being able to make each goods able to lay in the goods pan with which a color differs from a pattern according to a class each time, the approach and equipment which can calculate the tariff of the goods pan which the visitor ate in an instant are demanded strongly.
[0010] Without limiting the class of goods made to lay that such want should be coped with, this invention can input goods easily, makes the activity burden placed on merchandise management, fee calculation, etc. decrease sharply, and aims to let goods freshness management offer the goods management method and equipment in an easy revolution eating-and-drinking base.
[0011]
[Means for Solving the Problem] In the revolution eating-and-drinking base on which it comes to prepare the crescent-sash-lock chain with which this invention makes patrol conveyance of the goods carry out above a pedestal The recognition data which are made to lay goods in each goods pan, and consist of the color of this goods pan, a pattern, and a form, After reading at once by the distinction sensor by which the classification data and each image of ** which consist of a class of goods were connected with the computer and recording on a computer, by supplying on a crescent-

sash-lock chain The goods pan by which patrol conveyance is carried out in the crescent-sash-lock chain top is altogether recorded on a computer. ID medium which records the recognition data of a goods pan on the thing characterized by managing or a goods pan is made to install. The recognition data of a goods pan are altogether recorded on read and a computer by ID medium reading sensor. The recognition data of the thing characterized by managing, or the goods pan which the visitor ate by the distinction sensor or ID medium reading sensor Read and the recognition data of this read goods pan, The class and the number of the goods pan with which the computer collated the recognition data of the goods pan recorded beforehand and the classification data of goods, and the visitor ate them are measured. And recognition data of each goods pan on the thing characterized by calculating the tariff, or a crescent-sash-lock chain and classification data of each goods, The number of patrols of each goods pan is detected by the detection sensor which was arranged in the crescent-sash-lock chain near part and which was connected with the computer. The goods pan which run short when the goods pan which the goods pan and visitor who went round more than the count of a convention ate was detected and the recovery and the visitor by detection of a detection sensor ate according to a class and the number After recording on a computer, it is characterized by supplying the goods pan which run short on a crescent-sash-lock chain.

[0012]
[Embodiment of the Invention] The merchandise management equipment in the revolution eating-and-drinking base concerning this invention consists of the following configurations, as shown in drawing 1 , drawing 2 , and drawing 4 .

[0013] The crescent-sash-lock chain 18 with which the revolution eating-and-drinking base used by this invention carries out patrol conveyance of the goods pan 16 with which sushi was laid above the pedestal 12 in goods 14 and this invention is formed, and it comes to prepare a counter 20 in the periphery edge of a pedestal 12.

[0014] The distinction sensor 22 which distinguishes the color of the goods pan 16, a pattern, a form, and the class of goods 14 laid in the goods pan 16 is arranged.

[0015] In this example, it is formed in the form where a beforehand different color and a beforehand different pattern are given to the front face of each goods pan 16, or the goods pans 16 differ, and 1000 recognition data can be created with the combination of this color, a pattern, and a form by making a considerable number, for example, a color, a pattern, and a form into ten kinds, respectively.

[0016] Moreover, the distinction sensor 22 distinguishes the image of the goods pan 16 and goods 14 in an instant.

[0017] Moreover, as for the distinction sensor 22, it is desirable to make it arrange in two or more [in Kitchen K] so that it may be arranged in the bench 24 upper part and two or more operators can use it simultaneously.

[0018] While recording beforehand the recognition data of the goods pan 16 which the distinction sensor 22 read, and the classification data of goods 14 The recognition data of the goods pan 16 beforehand recorded as the recognition data of the goods pan 16 which the visitor ate, and the classification data of goods 14, It collates, and the class and the number of the goods pan 16 are measured, and a tariff is calculated, and the computer 26 which records and displays the tariff is installed in the register (account).

[0019] In this example, a computer 26 is a personal computer.

[0020] The computer 26 and the distinction sensor 22 are connected, respectively (connection).

[0021] As the drive of the crescent-sash-lock chain 18 of this example is shown in drawing 4 , the actuation sprocket 28 is formed in the 1 side corner of the crescent-sash-lock chain 18, and it comes to connect the driving shaft 30 of this actuation sprocket 28 with a motor 34 through the transmission chain 32.

[0022] If a motor 34 is made to drive, a driving shaft 30 will drive the actuation operation through the transmission chain 32, and subsequently the crescent-sash-lock chain 18 will drive it, and it will be patrolled.

[0023] In addition, an inside-of-a-shop hole is shown by the inside H of drawing.

[0024] The approach of managing the goods pan which carries out patrol conveyance of the crescent-sash-lock chain 18 top of a revolution eating-and-drinking base using this equipment is explained in full detail below.

[0025] First, the recognition data which consist of the color of the goods pan 16, a pattern, and a form, and the classification data which consist of a class of goods 14 are altogether recorded on a computer 26 by the distinction sensor 22 or the distinction sensor 22, and the equivalent device.

[0026] Next, each image of the recognition data of the goods pan 16 and the classification data of goods 14 is recorded at once by the computer 26 through the distinction sensor 22 by making the goods pan 16 lay on the bench 24 in which the distinction sensor 22 was arranged, and making goods 14 lay on this goods pan 16 (in instant).

[0027] A cook and a worker for this reason, the goods pan 16 of the color or the pattern that the color sense of the goods 14 to manufacture harmonizes While the troublesomeness which it becomes [troublesomeness] possible to make it lay on the bench 24 in which the distinction sensor 22 was arranged, and to make goods 14 lay, and makes goods 14 lay in the goods pan 16 of a predetermined tariff like old is lost Each image of the recognition data of each goods pan 16 and the classification data of each goods 14 is automatically recorded on a computer 26 altogether at once through the distinction sensor 22 in an instant, without inputting the classification data of goods 14 by the help.

[0028] Then, the goods pan 16 is supplied to up to the crescent-sash-lock chain 18 one by one.

[0029] Thus, the class and the number of all the goods pans 16 which were supplied to up to the crescent-sash-lock chain 18 are recorded and managed.

[0030] On the other hand, a visitor takes the favorite goods pan 16 from on the crescent-sash-lock chain 18, and after eating, a visitor lays the goods pan 16 eaten on counter 20 front face.

[0031] Next, a worker transmits the image of the recognition data of each laid goods pan 16 to a serial read through the hand reader (graphic display abbreviation) by which the distinction sensor 22 was carried, and transmits this data to a computer 26.

[0032] Next, a computer 26 collates the recognition data of the goods pan 16 beforehand recorded as the recognition data of each transmitted goods pan 16, and the classification data of goods 14, and the class and the number of each goods pan 16 which were read by the hand reader are measured, and a tariff is calculated.

[0033] While a computer 26 records and displays this tariff and telling about to a worker by the register (account), this tariff is transmitted and displayed on a hand reader, and you are told about also to a worker.

[0034] Next, in case a visitor can know the tariff of the eaten goods pan 16 and it pays by a worker's looking at this tariff and telling a visitor in a voice, being kept waiting by the register (account) for a long time for fee calculation is completely lost.

[0035] Said process operates according to an individual to each hand reader, respectively, and can also cope with a visitor's amount enough.

[0036] Moreover, the 2nd example of the equipment concerning this invention is shown in drawing 1 , the alternate long and short dash line of drawing 2 , and drawing 3 , and explains the configuration in full detail below.

[0037] The ID medium 36 is installed in the goods pan 16.

[0038] this example -- setting -- the ID medium 36 -- the electromagnetic-induction object of a disk mold -- generally it is known as a data carrier, and it is read or the information carrier which can be written in, and the pars-basilaris-ossis-occipitalis rear face of the goods pan 16 is equipped with non-contact data.

[0039] ID medium reading sensor 38 which reads the ID medium 36 of the goods pan 16 is arranged in the kitchen K in which the revolution eating-and-drinking base was installed.

[0040] In this example, generally ID medium reading sensor 38 is known as reader/writer corresponding to a data carrier, and reads the data of the ID medium 36 by the electric wave, and the inner package is carried out to bench 24 top face.

[0041] In addition, the hand reader (measuring instrument) with which, as for 40 in drawing 3 , the inner package of the ID medium reading sensor 38 was carried out, and 42 show the hand reader's 40 tariff display.

[0042] The approach of managing the goods pan which carries out patrol conveyance of the crescent-sash-lock chain 18 top of a revolution eating-and-drinking base using this equipment is explained in full detail below.

[0043] The recognition data of the goods pan 16 like the 1st example first, by ID medium reading sensor 38 or the equivalent device The classification data of goods 14 moreover, by the distinction sensor 22 or the equivalent device By making the goods pan 16 lay on the bench 24, and making goods 14 lay on this goods pan 16, after recording all on a computer 26 The distinction sensor 22 reads the image of the classification data of the goods pan 16, ID medium reading sensor 38 reads the recognition data of the goods pan 14, and both data are recorded on a computer 26 at once (in instant).

[0044] Under the present circumstances, since the recognition data of the goods pan 16 are performed through the ID medium 36 and ID medium reading sensor 38, compared with the image processing of the distinction sensor 22 of the 1st example, it can carry out certainly more in a short time.

[0045] Then, the goods pan 16 is supplied to up to the crescent-sash-lock chain 18 one by one.

[0046] Thus, the class and the number of all the goods pans 16 which were supplied to up to the crescent-sash-lock chain 18 are recorded and managed.

[0047] On the other hand, after a visitor takes and eats the favorite goods pan 16, a visitor accumulates the goods pan 16 eaten on counter 20 front face one by one.

[0048] Next, a worker reads the recognition data of the ID medium 36 of each accumulated goods pan 16 through the hand reader 40, and transmits this data to a computer 26.

[0049] Next, a computer 26 collates the recognition data of the goods pan 16 beforehand recorded as the recognition data of each transmitted goods pan 16, and the classification data of goods 14, and the class and the number of each goods pan 16 which were read by the hand reader 40 are measured, and a tariff is calculated.

[0050] While a computer 26 records and displays this tariff and telling about to a worker by the register (account), you are told about also to the worker who transmits and displays this tariff on the hand reader's 40 charging indication section 42, and operates the hand reader 40.

[0051] Next, in case a visitor can know the tariff of the eaten goods pan 16 and it pays by the worker who operates the hand reader 40 looking at this tariff display 42, and telling a visitor in a voice, being kept waiting by the register (account) for a long time for fee calculation is completely lost.

[0052] Said process operates according to an individual to each hand reader 40, respectively, and can also cope with a visitor's amount enough.

[0053] Moreover, the 3rd example of the equipment concerning this invention is shown in drawing 5 .

[0054] The equipment of this example is added to the 1st, the distinction sensor 22 of the 2nd example, and ID medium reading sensor 38. While making the detection sensor 44 which detects the recognition data of the ID medium 36 of each

goods pan 16 on the crescent-sash-lock chain 18 with the number of patrols arrange in crescent-sash-lock chain 18 near part It connects with a computer 26 and the warning machine 46 which tells a cook and a worker about existence of the goods (freshness of goods 14 deteriorated) pan 16 patrolled more than the count of a convention detected by this detection sensor 44 is made to arrange in detection sensor 44 near part.

[0055] The approach of managing the goods pan 16 on the crescent-sash-lock chain 18 of a revolution eating-and-drinking base using the equipment of this example is explained in full detail below.

[0056] Like the 2nd example, after recording the recognition data of the goods pan 16, and the classification data of goods 14 on a computer 26, by first, the distinction sensor 22 and ID medium reading sensor 38 After recording at once the classification data of the goods 14 laid in the recognition data of the goods pan 16, and the goods pan 16 at a computer 26 (in instant), by supplying the goods pan 16 to up to the crescent-sash-lock chain 18 one by one The class and the number of all the goods pans 16 which were supplied to up to the crescent-sash-lock chain 18 are recorded and managed.

[0057] On the other hand, after a visitor takes and eats the favorite goods pan 16, a visitor accumulates the goods pan 16 one by one on a counter 20.

[0058] The recognition data of the ID medium 36 of this accumulated goods pan 16 are read with the hand reader 40, a computer 26 collates the recognition data and classification data which transmitted this data to the computer 26 and were beforehand recorded as the transmitted recognition data, and measurement and a tariff are calculated and displayed.

[0059] While a computer 26 records and displays this tariff and telling about to a worker by the register (account), when a computer 26 transmits this tariff to the hand reader's 40 tariff display 42, it displays and tells about and a worker tells this tariff in a voice also to a visitor, you can be told about also to the worker who is measuring the accumulated goods pan 16.

[0060] Furthermore, the recognition data of the goods pan 16 which each goods pan 16 and visitor on the crescent-sash-lock chain 18 ate are detected by the detection sensor 44, and the goods pan 16 which the goods (freshness of goods 14 deteriorated) pan 16 and visitor who went round more than the count of a convention ate is detected.

[0061] Telling a cook and a worker about the goods pan 16 patrolled more than this detected count of a convention through the warning machine 46, a cook and a worker collect these goods pans 16.

[0062] Thus, after recording the goods pan 16 which run short when the recovery and the visitor by detection of the detection sensor 44 ate on a computer 26 by detection of the detection sensor 44, a cook and a worker manufacture and supply the goods pan 16 which run short on the crescent-sash-lock chain 18.

[0063] When this detection sensor 44 always detects the recognition data of the goods pan 16, the class and the number of the class of the class of goods pan 16 currently patrolled on the crescent-sash-lock chain 18 and the number, and collected goods pan 16, the number, and the goods pan 16 that the visitor ate can be checked on real time.

[0064] In addition, although a cook and a worker collect the goods pans 16 patrolled more than the count of a convention in this example Make the crescent-sash-lock chain 18 meet, and the recovery conveyor 48 is made to arrange, as the dotted line of drawing 5 shows. The advice guide 50 which can move to the joining segment of the recovery conveyor 48 and the crescent-sash-lock chain 18 freely is made to arrange. By moving the advice guide 50 to the crescent-sash-lock chain 18 side by detection of the detection sensor 44, making the advice guide 50 meet, making the detected goods pan 16 transport on the recovery conveyor 48, and collecting them It is also possible to collect automatically the goods pans 16 with which the freshness of goods 14 deteriorated.

[0065] Moreover, in the 2nd and the 3rd example, although the ID medium 36 installed in the goods pan 16 is an electromagnetic-induction object, the seal which printed the bar code is sufficient.

[0066] Moreover, although the distinction sensor 22 and ID medium reading sensor 38 are another objects, it is free to consider as integral construction and to make it arrange in bench 24 flank.

[0067] moreover, the 1- the tariff of the goods pan 16 which the visitor ate in the 3rd example, although the recognition data of the goods pan 16 are transmitted to a computer 26 through the hand reader which did the inner package of the distinction sensor 22 and the ID medium reading sensor 38 and the tariff is calculated By making counter 20 top face carry out the inner package of the distinction sensor 22 and the ID medium reading sensor 38 beforehand, and making this sensor 22 and the goods pan 16 eaten on 38 lay A computer 26 is able to collate and carry out fee calculation of the recognition data which sensors 22 and 38 read.

[0068] In case the goods pan 16 carries out fee calculation by the distinction sensor 22 made [this counter 20 top face] to carry out an inner package, it is necessary also for the rear face of the goods pan 16 to attach a color and a pattern.

[0069] Moreover, in the 3rd example, although the detection sensor 44 is a thing of a device which reads the recognition data of the ID medium 36 of the goods pan 16, it is obvious that each structure can be shared by considering as the device in which the love scene of the goods pan 16, a form, and the class of goods 14 are made to distinguish with an image like the distinction sensor 22.

[0070] moreover, the equipment used for the approach of this invention -- the 1- even if it is not limited to the 3rd example and the charging indication section does not prepare a hand reader, the fault of keeping a visitor waiting by the register for a long time is enough canceled by recording and displaying only on the computer 26 of a register (account), and telling a visitor about a tariff by the register.

[0071]
[Effect of the Invention] According to the goods management method and equipment in the revolution eating-and-drinking base concerning this invention A cook and a worker arrange the goods pan of arbitration in a distinction sensor lower part at the time of the input to the computer of the recognition data of a goods pan, and the classification data of goods, and the goods of arbitration are made to only lay on this goods pan. Since a distinction sensor can read each image of the recognition data of a goods pan, and the classification data of goods at once and can record all on a computer in an instant, Without limiting the class of about [that the goods input activity of a cook and a worker becomes that there is nothing], and goods pan, it can become possible to use the goods pan which harmonized with the color sense of goods, a visitor's appetite can be excited, and improvement in sales can be aimed at.
[0072] Moreover, the recognition data input of a goods pan can be performed more certainly in a short time by making ID medium install in the goods pan which carries out patrol conveyance on the crescent-sash-lock chain of a revolution eating-and-drinking base.
[0073] Moreover, about [that the fee calculation burden placed on a worker becomes that there is nothing] and a visitor completely loses being kept waiting by the register (account) for a long time for fee calculation in the case of payment by measuring the class and the number of the goods pan with which read and a computer collated the recognition data of the goods pan which the visitor ate by the distinction sensor or ID medium reading sensor, and the visitor ate them, and calculating the tariff.
[0074] Moreover, since the goods pan which the goods (freshness of goods deteriorated) pan and visitor who went round more than the count of a convention by making a detection sensor arrange in a crescent-sash-lock chain near part ate is automatically detectable, the degradation merchandise management burden and sales management burden which are placed on a cook and a worker can be made to decrease sharply.

[Translation done.]

EFFECT OF THE INVENTION

[Effect of the Invention] According to the goods management method and equipment in the revolution eating-and-drinking base concerning this invention, it sets at the time of the input to the computer of the recognition data of a goods pan, and the classification data of goods, A cook and a worker arrange the goods pan of arbitration in a distinction sensor lower part, and make the goods of arbitration only lay on this goods pan. Since a distinction sensor can read each image of the recognition data of a goods pan, and the classification data of goods at once and can record all on a computer in an instant, Without limiting the class of about [that the goods input activity of a cook and a worker becomes that there is nothing], and goods pan, it can become possible to use the goods pan which harmonized with the color sense of goods, a visitor's appetite can be excited, and improvement in sales can be aimed at.
[0072] Moreover, the recognition data input of a goods pan can be performed more certainly in a short time by making ID medium install in the goods pan which carries out patrol conveyance on the crescent-sash-lock chain of a revolution eating-and-drinking base.
[0073] Moreover, about [that the fee calculation burden placed on a worker becomes that there is nothing] and a visitor completely loses being kept waiting by the register (account) for a long time for fee calculation in the case of payment by measuring the class and the number of the goods pan with which read and a computer collated the recognition data of the goods pan which the visitor ate by the distinction sensor or ID medium reading sensor, and the visitor ate them, and calculating the tariff.
[0074] Moreover, since the goods pan which the goods (freshness of goods deteriorated) pan and visitor who went round more than the count of a convention by making a detection sensor arrange in a crescent-sash-lock chain near part ate is automatically detectable, the degradation merchandise management burden and sales management burden which are placed on a cook and a worker can be made to decrease sharply.

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MEANS

[Means for Solving the Problem] In the revolution eating-and-drinking base on which it comes to prepare the crescent-sash-lock chain with which this invention makes patrol conveyance of the goods carry out above a pedestal The recognition data which are made to lay goods in each goods pan, and consist of the color of this goods pan, a pattern, and a form, After reading at once by the distinction sensor by which the classification data and each image of ** which consist of a class of goods were connected with the computer and recording on a computer, by supplying on a crescent-sash-lock chain The goods pan by which patrol conveyance is carried out in the crescent-sash-lock chain top is altogether recorded on a computer. ID medium which records the recognition data of a goods pan on the thing characterized by managing or a goods pan is made to install. The recognition data of a goods pan are altogether recorded on read and a computer by ID medium reading sensor. The recognition data of the thing characterized by managing, or the goods pan which the visitor ate by the distinction sensor or ID medium reading sensor Read and the recognition data of this read goods pan, The class and the number of the goods pan with which the computer collated the recognition data of the goods pan recorded beforehand and the classification data of goods, and the visitor ate them are measured. And recognition data of each goods pan on the thing characterized by calculating the tariff, or a crescent-sash-lock chain and classification data of each goods, The number of patrols of each goods pan is detected by the detection sensor which was arranged in the crescent-sash-lock chain near part and which was connected with the computer. The goods pan which run short when the goods pan which the goods pan and visitor who went round more than the count of a convention ate was detected and the recovery and the visitor by detection of a detection sensor ate according to a class and the number After recording on a computer, it is characterized by supplying the goods pan which run short on a crescent-sash-lock chain.
[0012]
[Embodiment of the Invention] The merchandise management equipment in the revolution eating-and-drinking base concerning this invention consists of the following configurations, as shown in drawing 1 , drawing 2 , and drawing 4 .
[0013] The crescent-sash-lock chain 18 with which the revolution eating-and-drinking base used by this invention carries out patrol conveyance of the goods pan 16 with which sushi was laid above the pedestal 12 in goods 14 and this invention is formed, and it comes to prepare a counter 20 in the periphery edge of a pedestal 12.
[0014] The distinction sensor 22 which distinguishes the color of the goods pan 16, a pattern, a form, and the class of goods 14 laid in the goods pan 16 is arranged.
[0015] In this example, it is formed in the form where a beforehand different color and a beforehand different pattern are given to the front face of each goods pan 16, or the goods pans 16 differ, and 1000 recognition data can be created with the combination of this color, a pattern, and a form by making a considerable number, for example, a color, a pattern, and a form into ten kinds, respectively.
[0016] Moreover, the distinction sensor 22 distinguishes the image of the goods pan 16 and goods 14 in an instant.
[0017] Moreover, as for the distinction sensor 22, it is desirable to make it arrange in two or more [in Kitchen K] so that it may be arranged in the bench 24 upper part and two or more operators can use it simultaneously.
[0018] While recording beforehand the recognition data of the goods pan 16 which the distinction sensor 22 read, and the classification data of goods 14 The recognition data of the goods pan 16 beforehand recorded as the recognition data of the goods pan 16 which the visitor ate, and the classification data of goods 14, It collates, and the class and the number of the goods pan 16 are measured, and a tariff is calculated, and the computer 26 which records and displays the tariff is installed in the register (account).
[0019] In this example, a computer 26 is a personal computer.
[0020] The computer 26 and the distinction sensor 22 are connected, respectively (connection).
[0021] As the drive of the crescent-sash-lock chain 18 of this example is shown in drawing 4 , the actuation sprocket 28 is formed in the 1 side corner of the crescent-sash-lock chain 18, and it comes to connect the driving shaft 30 of this actuation sprocket 28 with a motor 34 through the transmission chain 32.
[0022] If a motor 34 is made to drive, a driving shaft 30 will drive the actuation operation through the transmission chain 32, and subsequently the crescent-sash-lock chain 18 will drive it, and it will be patrolled.
[0023] In addition, an inside-of-a-shop hole is shown by the inside H of drawing.

[0024] The approach of managing the goods pan which carries out patrol conveyance of the crescent-sash-lock chain 18 top of a revolution eating-and-drinking base using this equipment is explained in full detail below.

[0025] First, the recognition data which consist of the color of the goods pan 16, a pattern, and a form, and the classification data which consist of a class of goods 14 are altogether recorded on a computer 26 by the distinction sensor 22 or the distinction sensor 22, and the equivalent device.

[0026] Next, each image of the recognition data of the goods pan 16 and the classification data of goods 14 is recorded at once by the computer 26 through the distinction sensor 22 by making the goods pan 16 lay on the bench 24 in which the distinction sensor 22 was arranged, and making goods 14 lay on this goods pan 16 (in instant).

[0027] A cook and a worker for this reason, the goods pan 16 of the color or the pattern that the color sense of the goods 14 to manufacture harmonizes While the troublesomeness which it becomes [troublesomeness] possible to make it lay on the bench 24 in which the distinction sensor 22 was arranged, and to make goods 14 lay, and makes goods 14 lay in the goods pan 16 of a predetermined tariff like old is lost Each image of the recognition data of each goods pan 16 and the classification data of each goods 14 is automatically recorded on a computer 26 altogether at once through the distinction sensor 22 in an instant, without inputting the classification data of goods 14 by the help.

[0028] Then, the goods pan 16 is supplied to up to the crescent-sash-lock chain 18 one by one.

[0029] Thus, the class and the number of all the goods pans 16 which were supplied to up to the crescent-sash-lock chain 18 are recorded and managed.

[0030] On the other hand, a visitor takes the favorite goods pan 16 from on the crescent-sash-lock chain 18, and after eating, a visitor lays the goods pan 16 eaten on counter 20 front face.

[0031] Next, a worker transmits the image of the recognition data of each laid goods pan 16 to a serial read through the hand reader (graphic display abbreviation) by which the distinction sensor 22 was carried, and transmits this data to a computer 26.

[0032] Next, a computer 26 collates the recognition data of the goods pan 16 beforehand recorded as the recognition data of each transmitted goods pan 16, and the classification data of goods 14, and the class and the number of each goods pan 16 which were read by the hand reader are measured, and a tariff is calculated.

[0033] While a computer 26 records and displays this tariff and telling about to a worker by the register (account), this tariff is transmitted and displayed on a hand reader, and you are told about also to a worker.

[0034] Next, in case a visitor can know the tariff of the eaten goods pan 16 and it pays by a worker's looking at this tariff and telling a visitor in a voice, being kept waiting by the register (account) for a long time for fee calculation is completely lost.

[0035] Said process operates according to an individual to each hand reader, respectively, and can also cope with a visitor's amount enough.

[0036] Moreover, the 2nd example of the equipment concerning this invention is shown in drawing 1 , the alternate long and short dash line of drawing 2 , and drawing 3 , and explains the configuration in full detail below.

[0037] The ID medium 36 is installed in the goods pan 16.

[0038] this example -- setting -- the ID medium 36 -- the electromagnetic-induction object of a disk mold -- generally it is known as a data carrier, and it is read or the information carrier which can be written in, and the pars-basilaris-ossis-occipitalis rear face of the goods pan 16 is equipped with non-contact data.

[0039] ID medium reading sensor 38 which reads the ID medium 36 of the goods pan 16 is arranged in the kitchen K in which the revolution eating-and-drinking base was installed.

[0040] In this example, generally ID medium reading sensor 38 is known as reader/writer corresponding to a data carrier, and reads the data of the ID medium 36 by the electric wave, and the inner package is carried out to bench 24 top face.

[0041] In addition, the hand reader (measuring instrument) with which, as for 40 in drawing 3 , the inner package of the ID medium reading sensor 38 was carried out, and 42 show the hand reader's 40 tariff display.

[0042] The approach of managing the goods pan which carries out patrol conveyance of the crescent-sash-lock chain 18 top of a revolution eating-and-drinking base using this equipment is explained in full detail below.

[0043] The recognition data of the goods pan 16 like the 1st example first, by ID medium reading sensor 38 or the equivalent device The classification data of goods 14 moreover, by the distinction sensor 22 or the equivalent device By making the goods pan 16 lay on the bench 24, and making goods 14 lay on this goods pan 16, after recording all on a computer 26 The distinction sensor 22 reads the image of the classification data of the goods pan 16, ID medium reading sensor 38 reads the recognition data of the goods pan 14, and both data are recorded on a computer 26 at once (in instant).

[0044] Under the present circumstances, since the recognition data of the goods pan 16 are performed through the ID medium 36 and ID medium reading sensor 38, compared with the image processing of the distinction sensor 22 of the 1st example, it can carry out certainly more in a short time.

[0045] Then, the goods pan 16 is supplied to up to the crescent-sash-lock chain 18 one by one.

[0046] Thus, the class and the number of all the goods pans 16 which were supplied to up to the crescent-sash-lock chain 18 are recorded and managed.

[0047] On the other hand, after a visitor takes and eats the favorite goods pan 16, a visitor accumulates the goods pan

16 eaten on counter 20 front face one by one.

[0048] Next, a worker reads the recognition data of the ID medium 36 of each accumulated goods pan 16 through the hand reader 40, and transmits this data to a computer 26.

[0049] Next, a computer 26 collates the recognition data of the goods pan 16 beforehand recorded as the recognition data of each transmitted goods pan 16, and the classification data of goods 14, and the class and the number of each goods pan 16 which were read by the hand reader 40 are measured, and a tariff is calculated.

[0050] While a computer 26 records and displays this tariff and telling about to a worker by the register (account), you are told about also to the worker who transmits and displays this tariff on the hand reader's 40 charging indication section 42, and operates the hand reader 40.

[0051] Next, in case a visitor can know the tariff of the eaten goods pan 16 and it pays by the worker who operates the hand reader 40 looking at this tariff display 42, and telling a visitor in a voice, being kept waiting by the register (account) for a long time for fee calculation is completely lost.

[0052] Said process operates according to an individual to each hand reader 40, respectively, and can also cope with a visitor's amount enough.

[0053] Moreover, the 3rd example of the equipment concerning this invention is shown in <u>drawing 5</u> .

[0054] The equipment of this example is added to the 1st, the distinction sensor 22 of the 2nd example, and ID medium reading sensor 38. While making the detection sensor 44 which detects the recognition data of the ID medium 36 of each goods pan 16 on the crescent-sash-lock chain 18 with the number of patrols arrange in crescent-sash-lock chain 18 near part It connects with a computer 26 and the warning machine 46 which tells a cook and a worker about existence of the goods (freshness of goods 14 deteriorated) pan 16 patrolled more than the count of a convention detected by this detection sensor 44 is made to arrange in detection sensor 44 near part.

[0055] The approach of managing the goods pan 16 on the crescent-sash-lock chain 18 of a revolution eating-and-drinking base using the equipment of this example is explained in full detail below.

[0056] Like the 2nd example, after recording the recognition data of the goods pan 16, and the classification data of goods 14 on a computer 26, by first, the distinction sensor 22 and ID medium reading sensor 38 After recording at once the classification data of the goods 14 laid in the recognition data of the goods pan 16, and the goods pan 16 at a computer 26 (in instant), by supplying the goods pan 16 to up to the crescent-sash-lock chain 18 one by one The class and the number of all the goods pans 16 which were supplied to up to the crescent-sash-lock chain 18 are recorded and managed.

[0057] On the other hand, after a visitor takes and eats the favorite goods pan 16, a visitor accumulates the goods pan 16 one by one on a counter 20.

[0058] The recognition data of the ID medium 36 of this accumulated goods pan 16 are read with the hand reader 40, a computer 26 collates the recognition data and classification data which transmitted this data to the computer 26 and were beforehand recorded as the transmitted recognition data, and measurement and a tariff are calculated and displayed.

[0059] While a computer 26 records and displays this tariff and telling about to a worker by the register (account), when a computer 26 transmits this tariff to the hand reader's 40 tariff display 42, it displays and tells about and a worker tells this tariff in a voice also to a visitor, you can be told about also to the worker who is measuring the accumulated goods pan 16.

[0060] Furthermore, the recognition data of the goods pan 16 which each goods pan 16 and visitor on the crescent-sash-lock chain 18 ate are detected by the detection sensor 44, and the goods pan 16 which the goods (freshness of goods 14 deteriorated) pan 16 and visitor who went round more than the count of a convention ate is detected.

[0061] Telling a cook and a worker about the goods pan 16 patrolled more than this detected count of a convention through the warning machine 46, a cook and a worker collect these goods pans 16.

[0062] Thus, after recording the goods pan 16 which run short when the recovery and the visitor by detection of the detection sensor 44 ate on a computer 26 by detection of the detection sensor 44, a cook and a worker manufacture and supply the goods pan 16 which run short on the crescent-sash-lock chain 18.

[0063] When this detection sensor 44 always detects the recognition data of the goods pan 16, the class and the number of the class of the class of goods pan 16 currently patrolled on the crescent-sash-lock chain 18 and the number, and collected goods pan 16, the number, and the goods pan 16 that the visitor ate can be checked on real time.

[0064] In addition, although a cook and a worker collect the goods pans 16 patrolled more than the count of a convention in this example Make the crescent-sash-lock chain 18 meet, and the recovery conveyor 48 is made to arrange, as the dotted line of <u>drawing 5</u> shows. The advice guide 50 which can move to the joining segment of the recovery conveyor 48 and the crescent-sash-lock chain 18 freely is made to arrange. By moving the advice guide 50 to the crescent-sash-lock chain 18 side by detection of the detection sensor 44, making the advice guide 50 meet, making the detected goods pan 16 transport on the recovery conveyor 48, and collecting them It is also possible to collect automatically the goods pans 16 with which the freshness of goods 14 deteriorated.

[0065] Moreover, in the 2nd and the 3rd example, although the ID medium 36 installed in the goods pan 16 is an electromagnetic-induction object, the seal which printed the bar code is sufficient.

[0066] Moreover, although the distinction sensor 22 and ID medium reading sensor 38 are another objects, it is free to

consider as integral construction and to make it arrange in bench 24 flank.

[0067] moreover, the 1- the tariff of the goods pan 16 which the visitor ate in the 3rd example, although the recognition data of the goods pan 16 are transmitted to a computer 26 through the hand reader which did the inner package of the distinction sensor 22 and the ID medium reading sensor 38 and the tariff is calculated By making counter 20 top face carry out the inner package of the distinction sensor 22 and the ID medium reading sensor 38 beforehand, and making this sensor 22 and the goods pan 16 eaten on 38 lay A computer 26 is able to collate and carry out fee calculation of the recognition data which sensors 22 and 38 read.

[0068] In case the goods pan 16 carries out fee calculation by the distinction sensor 22 made [this counter 20 top face] to carry out an inner package, it is necessary also for the rear face of the goods pan 16 to attach a color and a pattern.

[0069] Moreover, in the 3rd example, although the detection sensor 44 is a thing of a device which reads the recognition data of the ID medium 36 of the goods pan 16, it is obvious that each structure can be shared by considering as the device in which the love scene of the goods pan 16, a form, and the class of goods 14 are made to distinguish with an image like the distinction sensor 22.

[0070] moreover, the equipment used for the approach of this invention -- the 1- even if it is not limited to the 3rd example and the charging indication section does not prepare a hand reader, the fault of keeping a visitor waiting by the register for a long time is enough canceled by recording and displaying only on the computer 26 of a register (account), and telling a visitor about a tariff by the register.

[Translation done.]

* NOTICES *

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1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

CLAIMS

[Claim(s)]
[Claim 1] In the revolution eating-and-drinking base on which it comes to prepare the crescent-sash-lock chain (18) which carries out patrol conveyance of the goods (14) above a pedestal (12) The recognition data which are made to lay goods (14) in each goods pan (16), and consist of the color of this goods pan (16), a pattern, and a form, It reads at once by the distinction sensor (22) by which the classification data and each image of ** which consist of a class of goods (14) were connected with the computer (26). After recording on a computer (26), by supplying on a crescent-sash-lock chain (18) The goods management method in the revolution eating-and-drinking base characterized by recording altogether the goods pan (16) by which patrol conveyance is carried out in the crescent-sash-lock chain (18) top on a computer (26), and managing it.
[Claim 2] The goods management method in the revolution eating-and-drinking base according to claim 1 which is made to install ID medium (36) which records the recognition data of a goods pan (16) on a goods pan (16), records the recognition data of a goods pan (16) on read and a computer (26) altogether by ID medium reading sensor (38), and is characterized by managing.
[Claim 3] The recognition data of the goods pan (16) which the visitor ate by the distinction sensor (22) or ID medium reading sensor (38) Read and the recognition data of this read goods pan (16), The recognition data of the goods pan (16) recorded beforehand, and the classification data of goods (14) The goods management method in the revolution eating-and-drinking base according to claim 1 or 2 characterized by measuring the class and the number of the goods pan (16) which the computer (26) collated and the visitor ate, and calculating the tariff.
[Claim 4] The recognition data of each goods pan (16) on a crescent-sash-lock chain (18), and the classification data of each goods (14), Arranged the number of patrols of each goods pan (16) in the crescent-sash-lock chain (18) near part. It detects by the detection sensor (44) connected with the computer (26). The goods pan (16) which the goods pan (16) and visitor who went round more than the count of a convention ate is detected. The goods pan (16) which run short when the recovery and the visitor by detection of a detection sensor (44) ate according to a class and the number Claim 1 characterized by supplying the goods pan (16) which run short on a crescent-sash-lock chain (18) after recording on a computer (26), the goods management method in a revolution eating-and-drinking base according to claim 2 or 3.
[Claim 5] In the revolution eating-and-drinking base on which it comes to prepare the crescent-sash-lock chain (18) which carries out patrol conveyance of the goods (14) above a pedestal (12) The goods pan formed in a form which a different color and a different pattern are attached or is different (16), The recognition data which consist of the color of a goods pan (16), a pattern, and a form, and the classification data which consist of a class of goods (14) made to lay in a goods pan (16), The distinction sensor (22) which distinguishes a **** image, and the recognition data of the goods pan (16) by the distinction sensor (22), The computer which records the classification data of the goods (14) laid in this goods pan (16) (26), since -- the recognition data of a goods pan (16), and the classification data of the goods (14) made to lay in this goods pan (16) After reading at once by the distinction sensor (22) and recording on a computer (26), by supplying on a crescent-sash-lock chain (18) Merchandise management equipment in the revolution eating-and-drinking base characterized by recording altogether the goods pan (16) by which patrol conveyance is carried out in the crescent-sash-lock chain (18) top on a computer (30), and managing it.
[Claim 6] Merchandise management equipment in the revolution eating-and-drinking base according to claim 5 which is made to install ID medium (36) which records the recognition data of a goods pan (16) on a goods pan (16), records the recognition data of a goods pan (16) on read and a computer (26) altogether by ID medium reading sensor (38), and is characterized by managing.
[Claim 7] The recognition data of the goods pan (16) which the visitor ate by the distinction sensor (22) or ID medium reading sensor (38) Read and the recognition data of this read goods pan (16), The recognition data of the goods pan (16) recorded beforehand, and the classification data of goods (14) Merchandise management equipment in the revolution eating-and-drinking base according to claim 5 or 6 characterized by measuring the class and the number of the goods pan (16) which the computer (26) collated and the visitor ate, and calculating the tariff.
[Claim 8] The recognition data of each goods pan (16) on a crescent-sash-lock chain (18), and the classification data of each goods (14), The detection sensor (44) which detects the number of patrols of each goods pan (16) is made to arrange in a crescent-sash-lock chain (18) near part. By the detection sensor (44) The goods pan (16) which the goods

pan (16) and visitor who patrolled the crescent-sash-lock chain (18) top more than the count of a convention ate is detected. The goods pan (16) which run short when the recovery and the visitor by detection of a detection sensor (44) ate according to a class and the number Claim 5 characterized by supplying the goods pan (16) which run short on a crescent-sash-lock chain (18) after recording on a computer (26), merchandise management equipment in a revolution eating-and-drinking base according to claim 6 or 7.

[Translation done.]
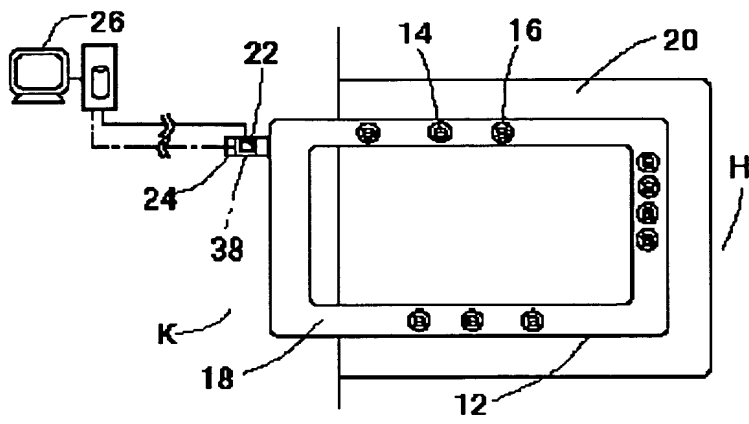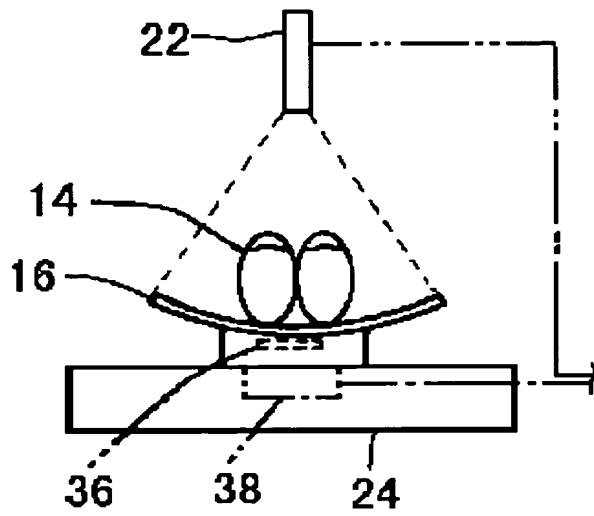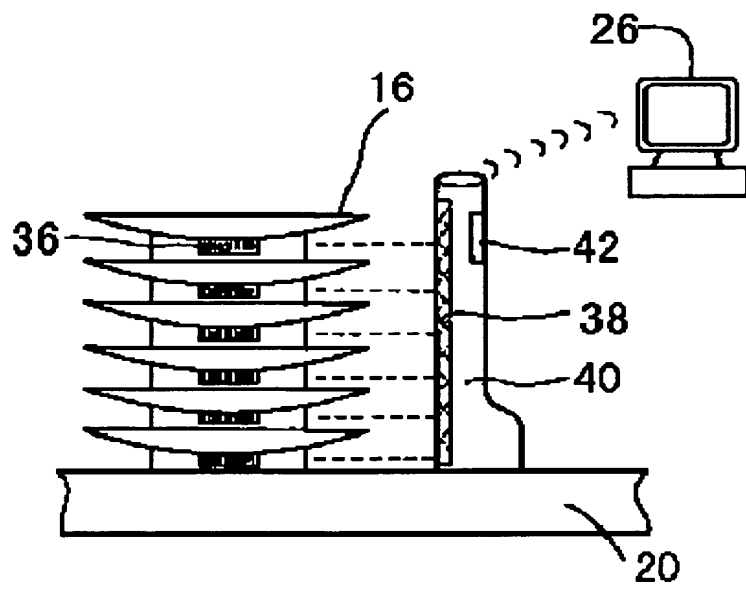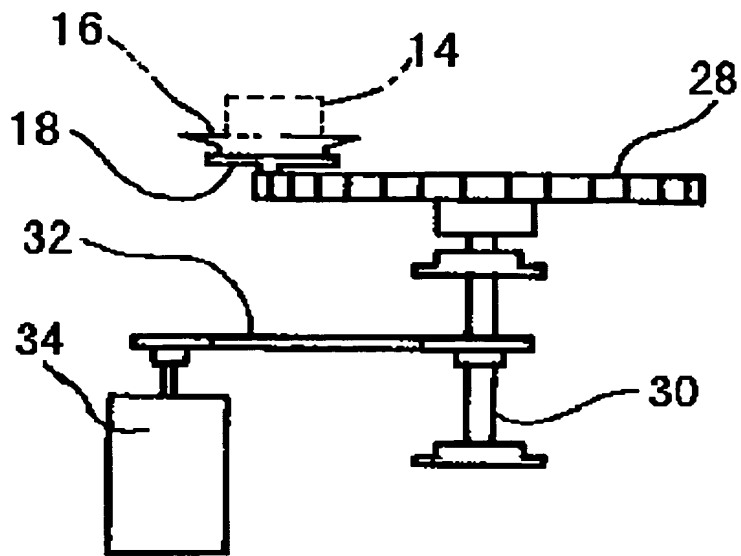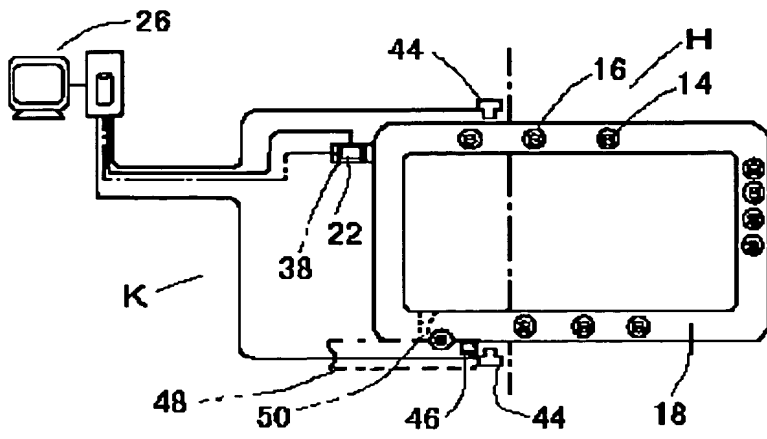
| (51)Int.Cl.⁷		識別記号	ＦＩ		テーマコート゛（参考）
Ｇ０７Ｇ	1/12	３６１	Ｇ０７Ｇ	1/12	３６１Ｃ　　３Ｂ１１５
Ａ４７Ｇ	23/08		Ａ４７Ｇ	23/08	Ｚ　　　　３Ｅ０４２
Ｇ０６Ｆ	17/60		Ｇ０６Ｋ	7/00	Ｕ　　　　５Ｂ０４９
Ｇ０６Ｋ	7/00			17/00	Ｆ　　　　５Ｂ０５８
	17/00				Ｌ　　　　５Ｂ０７２

審査請求　未請求　請求項の数8　ＯＬ　（全 7 頁）　最終頁に続く

(54)【発明の名称】　回転飲食台における商品管理方法およびその装置

(57)【要約】

【課題】商品入力が容易に行え、商品管理等にかかる作業負担を激減する。

【解決手段】基台１２上方で商品１４を巡回搬送させるクレセントチェーン１８が設けられてなる回転飲食台において、各商品皿１６に商品１４を載置させ、この商品皿１６の色あるいは模様からなる認識データと、商品１４の種類からなる種別データと、の各画像をコンピューター２６と連結された判別センサー２２により読取り、コンピューター２６に記録した後、クレセントチェーン１８上に供給することにより、クレセントチェーン１８上を巡回搬送されている商品皿１６をコンピューター２６に全て記録し、管理することを特徴とする。

1
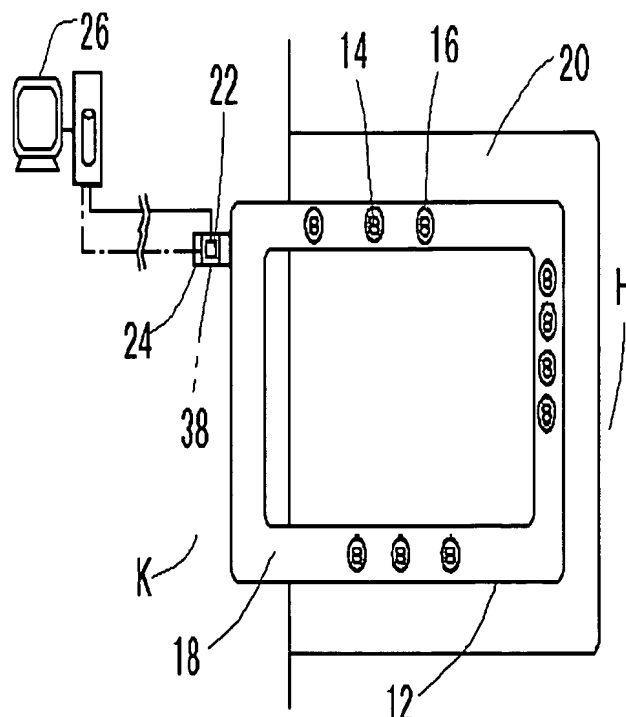
【特許請求の範囲】
【請求項1】　基台(12)の上方に商品(14)を巡回搬送させるクレセントチェーン(18)が設けられてなる回転飲食台において、各商品皿(16)に商品(14)を載置させ、この商品皿(16)の色、模様、形からなる認識データと、商品(14)の種類からなる種別データと、の各画像をコンピューター(26)と連結された判別センサー(22)により一度に読取り、コンピューター(26)に記録した後、クレセントチェーン(18)上に供給することにより、クレセントチェーン(18)上を巡回搬送されている商品皿(16)をコンピューター(26)に全て記録し、管理することを特徴とする回転飲食台における商品管理方法。

【請求項2】　商品皿(16)に、商品皿(16)の認識データを記録するID媒体(36)を添設させ、商品皿(16)の認識データをID媒体読取センサー(38)により読取り、コンピューター(26)に全て記録し、管理することを特徴とする請求項1記載の回転飲食台における商品管理方法。

【請求項3】　客が食した商品皿(16)の認識データを、判別センサー(22)またはID媒体読取センサー(38)により読取り、この読取った商品皿(16)の認識データと、予め記録された商品皿(16)の認識データおよび商品(14)の種別データとを、コンピューター(26)が照合して客が食した商品皿(16)の種類および個数を計測し、かつその料金を計算することを特徴とする請求項1または請求項2記載の回転飲食台における商品管理方法。

【請求項4】　クレセントチェーン(18)上の各商品皿(16)の認識データおよび各商品(14)の種別データと、各商品皿(16)の巡回数とを、クレセントチェーン(18)近部に配設された、コンピューター(26)と連結された検知センサー(44)により検知し、規定回数以上巡回された商品皿(16)および客が食した商品皿(16)を検出し、検知センサー(44)の検出による回収および客が食したことにより不足している商品皿(16)を種類および個数別に、コンピューター(26)に記録した後、クレセントチェーン(18)上に不足している商品皿(16)を供給することを特徴とする請求項1、請求項2または請求項3記載の回転飲食台における商品管理方法。

【請求項5】　基台(12)の上方に商品(14)を巡回搬送させるクレセントチェーン(18)が設けられてなる回転飲食台において、異なる色、模様が付され、あるいは異なる形に形成された商品皿(16)と、商品皿(16)の色、模様、形からなる認識データと、商品皿(16)に載置させる商品(14)の種類からなる種別データと、の各画像を判別する判別センサー(22)と、判別センサー(22)による商品皿(16)の認識データと、この商品皿(16)に載置された商品(14)の種別データと、を記録するコンピューター(26)と、からなり、商品皿(16)の認識データ、およびこの商品皿(16)に載置させた商品(14)の種別データを、判別センサー(22)により一度に読取り、コンピューター(26)に記録した後、クレセントチェーン(18)上に供給することによ

り、クレセントチェーン(18)上を巡回搬送されている商品皿(16)をコンピューター(30)に全て記録し、管理することを特徴とする回転飲食台における商品管理装置。

【請求項6】　商品皿(16)に、商品皿(16)の認識データを記録するID媒体(36)を添設させ、商品皿(16)の認識データをID媒体読取センサー(38)により読取り、コンピューター(26)に全て記録し、管理することを特徴とする請求項5記載の回転飲食台における商品管理装置。

【請求項7】　客が食した商品皿(16)の認識データを、判別センサー(22)またはID媒体読取センサー(38)により読取り、この読取った商品皿(16)の認識データと、予め記録された商品皿(16)の認識データおよび商品(14)の種別データとを、コンピューター(26)が照合して客が食した商品皿(16)の種類および個数を計測し、かつその料金を計算することを特徴とする請求項5または請求項6記載の回転飲食台における商品管理装置。

【請求項8】　クレセントチェーン(18)上の各商品皿(16)の認識データおよび各商品(14)の種別データと、各商品皿(16)の巡回数と、を検知する検知センサー(44)をクレセントチェーン(18)近部に配設させ、検知センサー(44)により、クレセントチェーン(18)上を規定回数以上巡回された商品皿(16)および客が食した商品皿(16)を検出し、検知センサー(44)の検出による回収および客が食したことにより不足している商品皿(16)を種類および個数別に、コンピューター(26)に記録した後、クレセントチェーン(18)上に不足している商品皿(16)を供給することを特徴とする請求項5、請求項6または請求項7記載の回転飲食台における商品管理装置。

【発明の詳細な説明】
【0001】
【発明の属する技術分野】本発明は、回転飲食台を設置した店において、巡回搬送されている商品皿を容易に管理することができる商品管理方法および装置に関するものである。
【0002】
【従来の技術】従来、回転飲食台を設置した店において、商品である寿司が載置された商品皿を供給する際、客が食した商品皿の料金を計算し易くするため、調理人がその都度、商品を種類別に、色あるいは模様の異なる商品皿に載置させていた。
【0003】また、客が食した商品皿の料金を計算する際、テーブルまたはカウンター上に積み上げられた商品皿を、従業者が色あるいは模様を確認の上、人手により計算し、その料金を客に提示、または肉声により知らせることが知られており、客はその料金をレジ（会計）にて支払っていた。
【0004】また、回転飲食台上を巡回搬送されている商品皿の商品の鮮度管理は、調理人または従業者の目視により、長時間客に食されることなく、商品鮮度が劣化した商品は、回転飲食台上から回収していた。

【０００５】

【発明が解決しようとする課題】従来は前記の通り、調理人、従業者が商品である寿司を料金別に色あるいは模様の異なる商品皿に載置させる場合、所定料金の商品皿がない時には、この所定料金の商品皿を至急洗浄して用意する必要があり、その間、寿司製造作業が中断する等の支障をきたし、作業能率が良くないことが問題となっていた。

【０００６】また、同一料金でも数種類の商品が存在することは常であり、数種類の商品はそれぞれ色彩が相違しているため、色彩の相違する各商品に対して同一色あるいは同一模様の商品皿に載置させることは、各商品と商品皿の色彩感覚が調和する場合もあれば、相反する場合もあり、相反する場合には客の食欲を減退させ、その商品に関して売上が激減するという問題があった。

【０００７】また、従業者は客が帰る都度、テーブルまたはカウンター上に積み上げられた商品皿を確認して料金を計算していたため、従業者にかかる会計作業負担が大であることが問題となっていた。

【０００８】また、商品の鮮度管理は、調理人または従業者の目視により行っていたため、、商品鮮度が劣化した商品が直ちに回収されない場合がしばしばあり、この際には鮮度劣化した商品は回転飲食台上でそのまま巡回搬送され続け、この鮮度劣化した商品が客の目に触れ、店の商品提供に対する信用、信頼を著しく低下させる要因となっていた。

【０００９】また、調理人、従業者において、各商品は、種類別に色あるいは模様の異なる商品皿にその都度載置させるのではなく、その商品の色彩に調和した商品皿に載置させることができると共に、客が食した商品皿の料金を瞬時に計算できる方法および装置が強く要望されている。

【００１０】本発明は、このような要望に対処すべく、載置させる商品の種類が限定されることなく、商品の入力が容易に行え、商品管理、料金計算等にかかる作業負担を激減させ、商品鮮度管理が容易である回転飲食台における商品管理方法および装置を提供することを目的とするものである。

【００１１】

【課題を解決するための手段】本発明は、基台の上方に商品を巡回搬送させるクレセントチェーンが設けられてなる回転飲食台において、各商品皿に商品を載置させ、この商品皿の色、模様、形からなる認識データと、商品の種類からなる種別データと、の各画像をコンピューターと連結された判別センサーにより一度に読取り、コンピューターに記録した後、クレセントチェーン上に供給することにより、クレセントチェーン上を巡回搬送されている商品皿をコンピューターに全て記録し、管理することを特徴とするもの、または商品皿に、商品皿の認識データを記録するＩＤ媒体を添設させ、商品皿の認識デ

ータをＩＤ媒体読取センサーにより読取り、コンピューターに全て記録し、管理することを特徴とするもの、または客が食した商品皿の認識データを、判別センサーまたはＩＤ媒体読取センサーにより読取り、この読取った商品皿の認識データと、予め記録された商品皿の認識データおよび商品の種別データとを、コンピューターが照合して客が食した商品皿の種類および個数を計測し、かつその料金を計算することを特徴とするもの、またはクレセントチェーン上の各商品皿の認識データおよび各商品の種別データと、各商品皿の巡回数とを、クレセントチェーン近部に配設された、コンピューターと連結された検知センサーにより検知し、規定回数以上巡回された商品皿および客が食した商品皿を検出し、検知センサーの検出による回収および客が食したことにより不足している商品皿を種類および個数別に、コンピューターに記録した後、クレセントチェーン上に不足している商品皿を供給することを特徴とするものである。

【００１２】

【発明の実施の形態】本発明に係る回転飲食台における商品管理装置は、図１、図２、図４に示すように、以下の構成からなるものである。

【００１３】本発明で使用する回転飲食台は、基台１２の上方に商品１４、本発明においては寿司が載置された商品皿１６を巡回搬送させるクレセントチェーン１８が設けられ、基台１２の外周縁にカウンター２０が設けられてなるものである。

【００１４】商品皿１６の色、模様、形と、商品皿１６に載置する商品１４の種類を判別する判別センサー２２が配設されている。

【００１５】本例において、各商品皿１６の表面には予め異なる色、模様が付され、または商品皿１６が異なる形に形成され、この色、模様、形の組合わせにより、相当数、例えば色、模様、形をそれぞれ１０種類とすることにより１０００個の認識データを作成できる。

【００１６】また、判別センサー２２は、商品皿１６および商品１４の画像を瞬時に判別するものである。

【００１７】また、判別センサー２２は、作業台２４上方に配設され、複数の作業者が同時に使用できるように、厨房Ｋ内の複数個所に配設させることが望ましい。

【００１８】判別センサー２２の読取った商品皿１６の認識データおよび商品１４の種別データを予め記録すると共に、客が食した商品皿１６の認識データと、予め記録した商品皿１６の認識データおよび商品１４の種別データと、を照合して商品皿１６の種類および個数を計測し、かつ料金を計算し、その料金を記録および表示するコンピューター２６が、レジ（会計）に設置されている。

【００１９】本例において、コンピューター２６はパソコンである。

【００２０】コンピューター２６と判別センサー２２と

がそれぞれ連結（接続）されている。

【００２１】本例のクレセントチェーン１８の駆動機構は、図４に示すように、クレセントチェーン１８の一側隅に駆動スプロケット２８が設けられ、この駆動スプロケット２８の駆動軸３０が伝動チェーン３２を介してモーター３４に連結されてなるものである。

【００２２】その駆動作用は、モーター３４を駆動させると、伝動チェーン３２を経て駆動軸３０が駆動され、ついでクレセントチェーン１８が駆動され、巡回するものである。

【００２３】なお、図中Hは店内ホールを示す。

【００２４】本装置を使用して回転飲食台のクレセントチェーン１８上を巡回搬送させる商品皿を管理する方法を以下に詳述する。

【００２５】まず、商品皿１６の色、模様、形からなる認識データ、および商品１４の種類からなる種別データを、判別センサー２２あるいは判別センサー２２と同等機器により、全てコンピューター２６に記録する。

【００２６】次に、商品皿１６を判別センサー２２が配設された作業台２４上に載置させ、この商品皿１６上に商品１４を載置させることにより、判別センサー２２を介して、商品皿１６の認識データおよび商品１４の種別データの各画像がコンピューター２６に一度に（瞬時に）記録される。

【００２７】このため、調理人、従業者は、製造する商品１４の色彩感覚が調和する色あるいは模様の商品皿１６を、判別センサー２２が配設された作業台２４上に載置させ、商品１４を載置させることが可能となり、従前のように所定料金の商品皿１６に商品１４を載置させる煩わしさがなくなると共に、人手により商品１４の種別データを入力することなく、判別センサー２２を介して自動的に各商品皿１６の認識データおよび各商品１４の種別データの各画像が一度にコンピューター２６に瞬時に全て記録される。

【００２８】その後、商品皿１６を順次クレセントチェーン１８上へ供給する。

【００２９】このように、クレセントチェーン１８上へ供給した全ての商品皿１６の種類および個数を記録し、管理する。

【００３０】一方、クレセントチェーン１８上から客が好みの商品皿１６を取り、食した後、客はカウンター２０表面に食した商品皿１６を載置する。

【００３１】次に、従業者が判別センサー２２が装着されたハンドリーダー（図示略）を介して、載置された各商品皿１６の認識データの画像を順次読取り、このデータをコンピューター２６へ送信する。

【００３２】次に、送信された各商品皿１６の認識データと、予め記録された商品皿１６の認識データおよび商品１４の種別データと、をコンピューター２６が照合して、ハンドリーダーにより読取られた各商品皿１６の種

類および個数を計測し、かつ料金を計算する。

【００３３】この料金をコンピューター２６は記録、表示し、レジ（会計）で従業者へ知らせると共に、この料金をハンドリーダーへ送信、表示して従業者へも知らせる。

【００３４】次に、従業者はこの料金を見て、客に肉声で知らせることにより、客は食した商品皿１６の料金を知ることができ、支払いの際、レジ（会計）にて料金計算のため、長時間待たされることが全くなくなる。

【００３５】前記工程は、各ハンドリーダーに対してそれぞれ個別に作動し、客の多寡にも十分対処できる。

【００３６】また、本発明に係る装置の第２例が、図１、図２の一点鎖線、および図３に示されており、以下にその構成を詳述する。

【００３７】商品皿１６にＩＤ媒体３６が添設されている。

【００３８】本例において、ＩＤ媒体３６は円板型の電磁誘導体、一般にデータキャリアとして知られており、非接触データを読取りまたは書込みできる情報担体であり、商品皿１６の底部裏面に装着されている。

【００３９】商品皿１６のＩＤ媒体３６を読取るＩＤ媒体読取センサー３８が、回転飲食台が設置された厨房K内に配設されている。

【００４０】本例において、ＩＤ媒体読取センサー３８は、一般にデータキャリアに対応するリーダ／ライタとして知られており、電波によってＩＤ媒体３６のデータを読取るものであり、作業台２４上面に内装されている。

【００４１】なお、図３中４０はＩＤ媒体読取センサー３８が内装されたハンドリーダー（計測器）、４２はハンドリーダー４０の料金表示部を示す。

【００４２】本装置を使用して回転飲食台のクレセントチェーン１８上を巡回搬送させる商品皿を管理する方法を以下に詳述する。

【００４３】まず、第１例と同様に、商品皿１６の認識データをＩＤ媒体読取センサー３８あるいは同等機器により、また商品１４の種別データを判別センサー２２あるいは同等機器により、全てコンピューター２６に記録した後、商品皿１６を作業台２４上に載置させ、この商品皿１６上に商品１４を載置させることにより、判別センサー２２が商品皿１６の種別データの画像を読取り、ＩＤ媒体読取センサー３８が商品皿１４の認識データを読取り、両データが一度に（瞬時に）コンピューター２６に記録される。

【００４４】この際、商品皿１６の認識データをＩＤ媒体３６およびＩＤ媒体読取センサー３８を介して行うため、第１例の判別センサー２２の画像処理に比べ、より短時間で確実に行うことができる。

【００４５】その後、商品皿１６を順次クレセントチェーン１８上へ供給する。

【００４６】このように、クレセントチェーン１８上へ供給した全ての商品皿１６の種類および個数を記録し、管理する。

【００４７】一方、客が好みの商品皿１６を取り、食した後、客はカウンター２０表面に食した商品皿１６を順次積み上げる。

【００４８】次に、従業者がハンドリーダー４０を介して、積上げられた各商品皿１６のＩＤ媒体３６の認識データを読取り、このデータをコンピューター２６へ送信する。

【００４９】次に、送信された各商品皿１６の認識データと、予め記録された商品皿１６の認識データおよび商品１４の種別データと、をコンピューター２６が照合して、ハンドリーダー４０により読取られた各商品皿１６の種類および個数を計測し、かつ料金を計算する。

【００５０】この料金をコンピューター２６は記録、表示し、レジ（会計）で従業者へ知らせると共に、この料金をハンドリーダー４０の料金表示部４２へ送信、表示してハンドリーダー４０を操作する従業者へも知らせる。

【００５１】次に、ハンドリーダー４０を操作する従業者はこの料金表示部４２を見て、客に肉声で知らせることにより、客は食した商品皿１６の料金を知ることができ、支払いの際、レジ（会計）にて料金計算のため、長時間待たされることが全くなくなる。

【００５２】前記工程は、各ハンドリーダー４０に対してそれぞれ個別に作動し、客の多寡にも十分対処できる。

【００５３】また、本発明に係る装置の第３例が図５に示してある。

【００５４】本例の装置は、第１、第２例の判別センサー２２、ＩＤ媒体読取センサー３８に加えて、クレセントチェーン１８上の各商品皿１６のＩＤ媒体３６の認識データを巡回数と共に検知する検知センサー４４を、クレセントチェーン１８近部に配設させると共に、コンピューター２６と連結し、この検知センサー４４により検出された規定回数以上巡回された（商品１４の鮮度が劣化した）商品皿１６の存在を調理人、従業者に知らせる警告器４６を検知センサー４４近部に配設させたものである。

【００５５】本例の装置を使用して回転飲食台のクレセントチェーン１８上の商品皿１６を管理する方法を以下に詳述する。

【００５６】まず、第２例同様、商品皿１６の認識データおよび商品１４の種別データをコンピューター２６に記録した後、判別センサー２２およびＩＤ媒体読取センサー３８により、商品皿１６の認識データおよび商品皿１６に載置した商品１４の種別データを、コンピューター２６に一度に（瞬時に）記録した後、商品皿１６を順次クレセントチェーン１８上へ供給することにより、ク

レセントチェーン１８上へ供給した全ての商品皿１６の種類および個数を記録し、管理する。

【００５７】一方、客が好みの商品皿１６を取り、食した後、客はカウンター２０上に商品皿１６を順次積み上げる。

【００５８】この積み上げられた商品皿１６のＩＤ媒体３６の認識データをハンドリーダー４０で読取り、このデータをコンピューター２６へ送信し、送信された認識データと、予め記録された認識データおよび種別データと、をコンピューター２６が照合して、計測、かつ料金を計算、表示する。

【００５９】この料金をコンピューター２６は記録、表示し、レジ（会計）で従業者へ知らせると共に、積み上げられた商品皿１６を計測している従業者に対しても、この料金をコンピューター２６がハンドリーダー４０の料金表示部４２へ送信することにより表示して知らせ、客に対しても、この料金を従業者が肉声により知らせることにより、知らせることができる。

【００６０】さらに、クレセントチェーン１８上の各商品皿１６および客が食した商品皿１６の認識データを検知センサー４４により検知し、規定回数以上巡回された（商品１４の鮮度が劣化した）商品皿１６および客が食した商品皿１６を検出する。

【００６１】この検出した規定回数以上巡回された商品皿１６を、警告器４６を介して調理人、従業者に知らせ、調理人、従業者はこの商品皿１６を回収する。

【００６２】このように、検知センサー４４の検出による回収および客が食したことにより不足している商品皿１６を、検知センサー４４の検知によりコンピューター２６に記録した後、クレセントチェーン１８上に不足している商品皿１６を調理人、従業者が製造し、供給する。

【００６３】この検知センサー４４が常時商品皿１６の認識データを検知することにより、クレセントチェーン１８上で巡回している商品皿１６の種類および個数、回収された商品皿１６の種類および個数、および客が食した商品皿１６の種類および個数を、リアルタイムで確認することができる。

【００６４】なお、本例において、規定回数以上巡回された商品皿１６は調理人、従業者が回収するものであるが、図５の点線で示すように、クレセントチェーン１８に沿わせて回収コンベア４８を配設させ、回収コンベア４８とクレセントチェーン１８との連結部分に移動自在の案内ガイド５０を配設させ、検知センサー４４の検出により案内ガイド５０をクレセントチェーン１８側に移動させ、検出された商品皿１６を案内ガイド５０に沿わせて回収コンベア４８上に移送させて回収することにより、商品１４の鮮度が劣化した商品皿１６を自動的に回収することも可能である。

【００６５】また、第２、第３例において、商品皿１６

に添設されたＩＤ媒体３６は電磁誘導体であるが、バーコードを印刷したシールでもよい。

【００６６】また、判別センサー２２とＩＤ媒体読取センサー３８とは別体であるが、一体構造とし、作業台２４側部に配設させることは自由である。

【００６７】また、第１〜第３例において、客が食した商品皿１６の料金は、判別センサー２２、ＩＤ媒体読取センサー３８を内装したハンドリーダーを介して商品皿１６の認識データをコンピューター２６に送信し、その料金を計算するものであるが、予めカウンター２０上面に判別センサー２２、ＩＤ媒体読取センサー３８を内装させ、このセンサー２２、３８上に食した商品皿１６を載置させることにより、センサー２２、３８が読取った認識データをコンピューター２６が照合して料金計算することも可能である。

【００６８】このカウンター２０上面に内装させた判別センサー２２により商品皿１６の料金計算する際には、商品皿１６の裏面にも色、模様を付すことが必要となる。

【００６９】また、第３例において、検知センサー４４は商品皿１６のＩＤ媒体３６の認識データを読取る機構のものであるが、判別センサー２２と同様に商品皿１６の色模様、形および商品１４の種類を画像により判別させる機構とすることにより、各構成物を共用できることは自明のことである。

【００７０】また、本発明の方法に使用する装置は第１〜第３例に限定されることはなく、またハンドリーダーに料金表示部は設けなくても、単にレジ（会計）のコンピューター２６にのみ記録、表示し、客にはレジにて料金を知らせることにより、レジにて客を長時間待たせるという欠点は十分解消される。

【００７１】
【発明の効果】本発明に係る回転飲食台における商品管理方法および装置によれば、商品皿の認識データおよび商品の種別データのコンピューターへの入力時において、調理人、従業者は判別センサー下方に任意の商品皿を配置させ、この商品皿上に任意の商品を載置させるだけで、判別センサーが商品皿の認識データおよび商品の種別データの各画像を一度に読取り、瞬時にコンピューターに全て記録することができるため、調理人、従業者

の商品入力作業が皆無となるばかりか、商品皿の種類が限定されることなく、商品の色彩感覚に調和した商品皿を使用することが可能となり、客の食欲をそそり、売上向上を図ることができる。

【００７２】また、回転飲食台のクレセントチェーン上で巡回搬送させる商品皿にＩＤ媒体を添設させることにより、商品皿の認識データ入力をより短時間で確実に行うことができる。

【００７３】また、客が食した商品皿の認識データを、判別センサーまたはＩＤ媒体読取センサーにより読取り、コンピューターが照合して客が食した商品皿の種類および個数を計測し、その料金を計算することにより、従業者にかかる料金計算負担が皆無となるばかりか、客は支払いの際、レジ（会計）にて料金計算のため、長時間待たされることが全くなくなる。

【００７４】また、検知センサーをクレセントチェーン近部に配設させることにより、規定回数以上巡回された（商品の鮮度が劣化した）商品皿および客が食した商品皿を自動的に検出することができるため、調理人、従業者にかかる劣化商品管理負担および売上管理負担を激減させることができる。

【図面の簡単な説明】
【図１】本発明に係る商品管理装置の平面図。
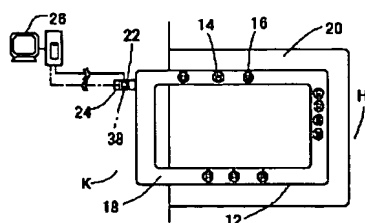【図２】同、商品皿および商品のデータ入力部を示す拡大正面図。
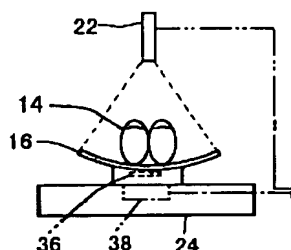【図３】同、商品皿計測部の拡大正面図。
【図４】クレセントチェーンの駆動機構を示す略線正面図。
【図５】別の例を示す平面図。
【符号の説明】
１２　基台
１４　商品
１６　商品皿
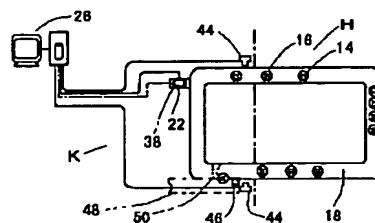１８　クレセントチェーン
２２　判別センサー
２６　コンピューター
３６　ＩＤ媒体
３８　ＩＤ媒体読取センサー
４４　検知センサー

【図１】

【図２】

【図５】

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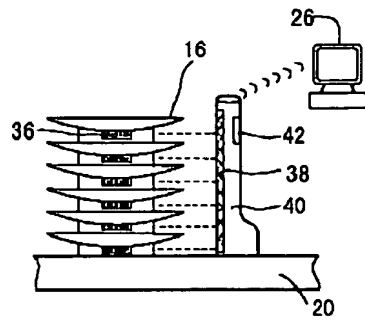【図3】

【図4】

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